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EXTENSION

Glycerin-Preserved Foliage

People who love to design with natural foliage are always looking for new or exciting ways to use these materials. Particularly in late summer, thoughts turn toward making the home nest cozier by creating decorations for fall and winter events.

Preserving beautiful foliage from the Southern garden and wild is a great way to add a natural element to interior floral designs. There are simple methods to preserve foliage, including air-drying, pressing, and using silica gel. Another technique that provides potentially excellent results is replacing the water inside plant cells with a glycerin solution. With this method, locally grown foliage can be used to create long-lasting floral designs.

Vegetable glycerin is a colorless, odorless liquid with the consistency of syrup. It is often used as a sweetener and moisturizer in products such as fondant, makeup, lotions, and medicines. There are many online sources for vegetable glycerin.

Glycerin is best used to preserve foliage, rather than flowers. Flower petal tissues are soft and may not hold well after uptake, but foliage is different. Mature stems have had time to produce lignin, a naturally occurring substance that gives plant tissue its firmness. Think of the difference between tender asparagus and tough asparagus. Juvenile growth has produced little lignin, while mature growth has more, creating a skeleton-like rigidity. Another helpful characteristic is the cuticle found on surfaces of many types of plants' leaves such as magnolia and ligustrum. This durable, waxy layer helps to protect foliage from being damaged easily. Mature stems and leaves will provide a better final product with glycerin preservation for floral designs.

- Avoid new, soft growth.
- Harvest before deciduous plants have changed to fall color.

Optimal outcomes occur with a half-and-half solution of glycerin and water. Some practitioners use less glycerin and find a 30 percent solution provides adequate results. Try varying concentrations to suit your purposes.

Ultimately, glycerin-preserved foliage has a soft, leathery feel and turns and remains a shade of brown.



Glycerin-preserved fatsia, nandina, rosemary, cherrylaurel, ligustrum, magnolia, and aspidistra, along with a cycas staminate cone, add a natural element to interior floral designs.

During processing, some plant materials will become milk chocolate in color, while others will be dark brown to almost black. These can be mixed with other preserved foliage or with permanent botanical flowers in arrangements. One problem with glycerin-treated foliage is that it will weep solution from the leaves when displayed under humid conditions. These oily droplets can potentially stain wooden surfaces and textiles.

Combine accents of preserved foliage with live foliage and cut flowers for a fall touch in floral designs. Take care when using it in clear-glass vase designs because the preserved material may discolor the water.

Glycerin-preserved foliage can be spray painted in a variety of colors and techniques, including metallic finishes for reflective glitz. Many plant materials from the yard and garden are well suited to glycerin preservation. Nandina, including any cultivars, provide lacy patterns in floral designs. Ivy, camellia, magnolia, 'Little Gem' magnolia, Carolina cherrylaurel, aspidistra, and aucuba all take up the solution with good results. Feel free to experiment!

How to Glycerin-Preserve Foliage



Figure 1. Add glycerin to a clean container, then add water and stir until completely mixed.



Figure 2. Fresh magnolia stems placed in the proper level of solution.

Pour glycerin into a clean container, then add tap water and mix thoroughly. Only a few inches of the solution are needed.

Place freshly cut stems in the solution, and keep the container in an out-of-the-way space at room temperature. Make sure the cut ends of the stems are always below the solution surface; otherwise, the stems will air dry, causing them to shrivel and become brittle. Stems will take up a small amount of solution, so depths of more than a few inches are excessive. It is important, however, to make sure the cut ends of stems are firmly placed and remain in the solution.

Best results with many varieties occur with stems no longer than 18–24 inches. Longer stems require glycerin solution to travel longer distances, and the glycerin solution may not be able to replace the water in plant cells before tissue death (senescence). If deciduous foliage shows fall color, it may not take up the solution before leaves detach from the stem.

Carolina cherrylaurel absorbs the solution quickly and completely in about a week. Nandina takes about the same amount of time. 'Little Gem' magnolia takes about 2 weeks, while magnolias and camellias may take 4 or more weeks. Aspidistra's uptake is slow—about 6 or more weeks. Midribs and veins will turn brown first, and then leaves will become evenly brown.

Once foliage has turned completely brown, remove stems from the solution and rinse them in the sink to remove the oily solution. Shake off water droplets or pat dry with towels, then air dry in a room with plenty of air circulation to prevent mold growth. Preserved foliage is now ready for floral design. The remaining glycerin solution may be reused numerous times.

After all of the steps are completed, foliage can be used for floral design.



Figure 3. Carolina cherry laurel leaves taking up glycerin solution.



Figure 4. When more than 80 percent of the leaves have turned brown, remove from the container and rinse off excess solution. Allow to air dry.



Figure 5. A variety of glycerin-preserved materials ready for design.

The following plant materials exhibited good results at the MSU Coastal Research and Extension Center. You are encouraged to experiment with others!

Scientific name	Common name
<i>Aspidistra elatior</i>	Cast iron plant
<i>Aucuba japonica</i>	Japanese aucuba
<i>Camellia japonica</i>	Japanese camellia
<i>Camellia sasanqua</i>	Sassanqua camellia
<i>Fatsia</i> sp.	Fatsia
<i>Ilex</i> sp.	Holly
<i>Ligustrum japonicum</i>	Wax leaf ligustrum
<i>Magnolia grandiflora</i>	Magnolia
<i>Magnolia grandiflora</i> 'Little Gem'	'Little Gem' magnolia
<i>Nandina domestica</i>	Nandina
<i>Prunus caroliniana</i>	Carolina cherry laurel
<i>Quercus</i> sp.	Oak
<i>Rosmarinus</i> sp.	Rosemary

References

Condon, G. 1982. *The complete book of floral preservation*. Pruett, Boulder, CO.

Dirr, M. 2009. *Manual of woody landscape plants*. Stipes, Champaign, IL.

Koch, M. 1995. *Preserving flowers and foliage with glycols and dyes*. Robert Koch Industries, Inc. Bennett, CO.

Odenwald, N. 2010. *Identification, selection, and use of southern plants for landscape design*. Claitor's Publishing Division, Baton Rouge, LA.



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